

Drawings

The Examiner objects to Fig. 17 and requests that it be labeled "Prior Art". Applicant has done so herein.

The Examiner also objects to the drawings under 37 CFR §1.83(a) as not showing every feature of the claims. In particular, the Examiner is requiring that "(h, k)" be shown in the drawings or canceled from the claims. Applicant has added this feature to Fig. 6. No new matter is believed to be added as this feature is shown in the claims as filed. In addition, please see the specification at page 10.

Accordingly, it is requested that these objections now be withdrawn.

Specification

The Examiner also objects to the specification as including non-standard English. The undersigned is currently preparing an amendment to the specification to correct the English therein. As soon as this amendment is finished, the undersigned will file the amendments to the specification.

Claim Rejections - 35 USC §112

§112, First Paragraph

The Examiner also rejects Claims 1-14 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the Examiner states that Claims 1 and 2 contain the equation (h, k) ($h=1\sim m$, $k=1\sim n$). The Examiner states that this is not understood as the symbol "~" is confusing.

Applicant has now amended the claims to delete the reference to "~". Accordingly, it is requested that this rejection now be withdrawn.

§112, Second Paragraph

The Examiner also rejects claims 1-14 and 18-20 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended Claims 1 and 2 as suggested by the Examiner.

Applicant has also amended Claims 1 and 2 to remove the recitation of first and second video data and instead the claims include the more clear recitation of “a video data” and “another video data”.

Applicant has also amended Claim 18 to delete the reference to a lateral length and a longitudinal length and instead the claims define a lateral side and a longitudinal side.

It is respectfully submitted that this overcomes the Examiner's rejection, and therefore, it is requested that the rejection be withdrawn.

As Claims 1-14 are not rejected over any prior art, it is respectfully submitted that these claims are now in an allowable condition and should be allowed.

Claim Rejections - 35 USC §102

The Examiner also has the following rejections under 35 U.S.C. §102 (b):

1. Claims 15-17 are rejected as being anticipated by Chimura et al.
2. Claim 18 is rejected as being anticipated by Thorner.

3. Claims 18-20 are rejected as being anticipated by Moriyama.

4. Claims 21-23 are rejected as being anticipated by Yamazaki '205.

Independent Claims 15, 18 and 21 have been amended to recite a video data converter, similar to that recited in independent Claim 1.¹ Applicant does not believe that the cited references disclose or suggest this feature (especially since the Examiner did not reject Claim 1 over any of these references).

Accordingly, it is respectfully submitted that these rejections have now been overcome. Therefore, it is requested that the rejections be withdrawn, and the claims allowed.

New Claims

Applicant is adding new Claims 24-42 herewith. These claims should be allowable for substantially the same reasons discussed above.

¹ Claim 15 has also been amended to recite the video formatter, the memory and the address decoder of the video data converter of Fig. 4. New independent claim 36 has a similar limitation.

The fee for new claims has been calculated as shown below.

	Claims Remaining After Amendment		Highest Number Previously Paid For	Present Extra	Rate	Fee
Total	42	-	23	19	(small entity) x 9 (others) x 18	\$342.00
Independent	6	-	5	1	(small entity) x 42 (others) x 84	\$84.00
Multiple Dependent (First Presentation)					(small entity) + 140 (others) + 280	\$0.00
TOTAL ADDITIONAL FEES						\$426.00

Applicant is enclosing a check for \$426.00 fee for the new claims and new independent claim.

If any additional fee is due, please charge our deposit account 50/1039.

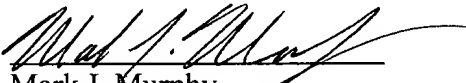
Conclusion

It is respectfully submitted that the present application is now in a condition for allowance, and accordingly, it is requested that it now be allowed.

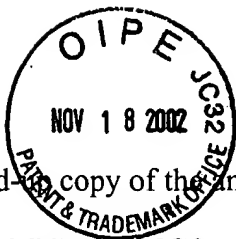
Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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Mark J. Murphy
Attorney of Record
Registration No. 34,225

COOK, ALEX, McFARRON, MANZO,
CUMMINGS & MEHLER
200 West Adams Street, Suite 2850
Chicago, Illinois 60606
(312) 236-8500



Marked copy of the amendments made herein:

IN THE DRAWINGS

Please amend the drawings as shown in red in the attached figures.

IN THE CLAIMS:

Please amend the claims as follows:

1.(Amended) A display device comprising:

a pixel portion including $m \times n$ pixels (m and n are both natural numbers and satisfy the relation $m < n$), said pixels each having a TFT;

a gate driver for feeding n gate signal lines with selection signals;

a source driver for feeding m source signal lines with video data; and

a video data converter circuit,

wherein said video data converter circuit converts [first] a video data (h, k) [$(h = 1 \sim m, k = 1 \sim n)$] ($h = 1, 2, 3, \dots, m-1, m$) and ($k = 1, 2, 3, \dots, n-1, n$) into [second] another video data, and

wherein the video data (h, k) [constituting said first video data] is converted into [$\{m(k-1) + h\}$ -th] $\{m \times (k-1) + h\}$ -th video data [that constitutes said second video data].

another video data
1st video data
2nd video data
video data
another video data
video data
(m x (k-1)) + h - 2nd video data

2. (Amended) A display device comprising:

a pixel portion including $m \times n$ pixels (in a pixel (h, k), [$h = 1 \sim m, k = 1 \sim n$] ($h = 1, 2, 3, \dots, m-1, m$) and ($k = 1, 2, 3, \dots, n-1, n$), with m and n both being natural numbers and satisfying the relation $m < n$), said pixels each having a TFT;

a gate driver for feeding n gate signal lines with selection signals;

a source driver for feeding m source signal lines with video data; and

a video data converter circuit,

wherein said video data converter circuit converts [first] a video data (h, k) [$(h = 1 \sim m, k = 1 \sim n)$] $(h = 1, 2, 3, \dots, m-1, m)$ and $(k = 1, 2, 3, \dots, n-1, n)$ which is to be fed to said pixel (h, k) into [second] another video data, and

wherein the video data (h, k) [constituting said first video data] is converted into [$\{m(k - 1) + h\}$ -th] $\{m \times (k - 1) + h\}$ -th video data [that constitutes said second video data].

3. A rear projector wherein three display devices according to claim 1 are used.
4. A front projector wherein three display devices according to claim 1 are used.
5. A rear projector wherein one display device according to claim 1 is used.
6. A front projector wherein one display device according to claim 1 is used.
7. Electronic equipment comprising a display device according to claim 1 is selected from the group consisting of a head mount display, a computer, a video camera, a DVD player, and display apparatus.
8. A rear projector wherein three display devices according to claim 2 are used.
9. A front projector wherein three display devices according to claim 2 are used.
10. A rear projector wherein one display device according to claim 2 is used.

11. A front projector wherein one display device according to claim 2 is used.

12. Electronic equipment comprising a display device according to claim 2 is selected from the group consisting of a head mount display, a computer, a video camera, a DVD player, and display apparatus.

13. A display device according to claim 1 is a liquid crystal display device.

14. A display device according to claim 2 is a liquid crystal display device.

15. (Amended) A display device comprising:

a pixel portion including $m \times n$ pixels (m and n are both natural numbers and satisfy the relation $m < n$), said pixels each having a TFT;

a gate driver for feeding n gate signal lines with selection signals; [and]

a source driver for feeding m source signal lines with video data[.]; and

a video data converter circuit,

wherein said video data converter circuit converts a video data (h, k) $h = 1, 2, 3, \dots, m-1, m$) and ($k = 1, 2, 3, \dots, n-1, n$) into another video data;

wherein the video data (h, k) is converted into $\{m \times (k - 1) + h\}$ -th video data; and

wherein said video data converter circuit has a video formatter, a memory and an address generator.

16. Electronic equipment comprising a display device according to claim 15 is selected from the group consisting of a front projector, a rear projector, a head mount display, a computer, a video camera, a DVD player, and display apparatus.

17. A display device according to claim 15 is a liquid crystal display device.

18.(Amended) A display device comprising:

a pixel portion including [a plurality of] $m \times n$ pixels (m and n are both natural numbers and satisfy the relation $m < n$), said pixels each having a TFT;

a gate driver [provided above said pixel portion; and] for feeding n gate signal lines with selection signals;

a source driver [provided on one side of said pixel portion,] for feeding m source signal lines with video data; and

a video data converter circuit,

wherein said video data converter circuit converts a video data (h, k) $h = 1, 2, 3, \dots, m-1, m$) and ($k = 1, 2, 3, \dots, n-1, n$) into another video data,

wherein the video data (h, k) is converted into $\{m \times (k - 1) + h\}$ -th video data,

[wherein a lateral length of said pixel portion is longer than a longitudinal length.]

wherein said gate driver is formed at a lateral side of the pixel portion, and

wherein said source driver is formed at a longitudinal side of the pixel portion.

19. Electronic equipment comprising a display device according to claim 18 is selected from the group consisting of a front projector, a rear projector, a head mount display, a computer, a video camera, a DVD player, and display apparatus.

20. A display device according to claim 18 is a liquid crystal display device.

21.(Amended) A display device comprising:

a pixel portion including [a plurality of] $m \times n$ pixels (m and n are both natural numbers and satisfy the relation $m < n$), said pixels each having a TFT;

[a plurality of gate signal lines connected to a gate driver; and]

[a plurality of source signal lines connected to a source driver,]

a gate driver for feeding n gate signal lines with selection signals;

a source driver for feeding m source signal lines with video data; and

a video data converter circuit,

wherein said video data converter circuit converts a video data (h, k) $h = 1, 2, 3, \dots, m-1, m$ and ($k = 1, 2, 3, \dots, n-1, n$) into another video data,

wherein the video data (h, k) is converted into $\{m \times (k - 1) + h\}$ -th video data, and

wherein said plurality of gate signal lines are vertical and said plurality of source signal lines are horizontal.

22. Electronic equipment comprising a display device according to claim 21 is selected from the group consisting of a front projector, a rear projector, a head mount display, a computer, a video camera, a DVD player, and display apparatus.

23. A display device according to claim 21 is a liquid crystal display device.

Please add following new claims:

- 24.(New) A rear projector wherein three display devices according to claim 15 are used.
- 25. (New) A front projector wherein three display devices according to claim 15 are used.
- 26. (New) A rear projector wherein one display device according to claim 15 is used.
- 27. (New) A front projector wherein one display device according to claim 15 is used.
- 28.(New) A rear projector wherein three display devices according to claim 18 are used.
- 29. (New) A front projector wherein three display devices according to claim 18 are used.
- 30. (New) A rear projector wherein one display device according to claim 18 is used.
- 31. (New) A front projector wherein one display device according to claim 18 is used.
- 32.(New) A rear projector wherein three display devices according to claim 21 are used.
- 33. (New) A front projector wherein three display devices according to claim 21 are used.
- 34. (New) A rear projector wherein one display device according to claim 21 is used.
- 35. (New) A front projector wherein one display device according to claim 21 is used.

36. (New) A display device comprising:
a pixel portion including $m \times n$ pixels (in a pixel (h, k) , $h = 1, 2, 3, \dots, m-1, m$) and $(k = 1, 2, 3, \dots, n-1, n)$, with m and n both being natural numbers and satisfying the relation $m < n$), said pixels each having a TFT;
a gate driver for feeding n gate signal lines with selection signals;
a source driver for feeding m source signal lines with video data; and
a video data converter circuit,
wherein said video data converter circuit converts a video data (h, k) ($h = 1, 2, 3, \dots, m-1, m$) and $(k = 1, 2, 3, \dots, n-1, n)$ which is to be fed to said pixel (h, k) into another video data,
wherein the video data (h, k) is converted into $\{m \times (k - 1) + h\}$ -th video, and
wherein said video data converter circuit has a video formatter, a memory and an address generator.

37. (New) A rear projector wherein three display devices according to claim 36 are used.

38. (New) A front projector wherein three display devices according to claim 36 are used.

39. (New) A rear projector wherein one display device according to claim 36 is used.

40. (New) A front projector wherein one display device according to claim 36 is used.

41. (New) Electronic equipment comprising a display device according to claim 36 is selected from the group consisting of a head mount display, a computer, a video camera, a DVD player, and display apparatus.

42. (New) A display device according to claim 36 is a liquid crystal display device.